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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/870,924

06/01/2001

Jean-Francis Kisovec

7136

8702

7590

07/16/2004

SHLESINGER, ARKWRIGHT & GARVEY LLP
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EXAMINER

CURS, NATHAN M

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,924

Applicant(s)

KISOVEC ET AL.

Examiner

Nathan Curs

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-18, 22 and 25 is/are rejected.
7) ☒ Claim(s) 19-21, 23, 24 and 26 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1 June 2001.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 8 and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, the phrase "said optical multiple wavelength apparatus for optical generation said ONUs includes multiple laser sources" is not grammatically correct and it is thus unclear.

Regarding claim 8, the phrase "said optical multiple wavelength apparatus for optical generation said POP units includes multiple laser sources" is not grammatically correct and it is thus unclear.

Claims 12-15 recites the limitation "said first and second fourth couplers". There is insufficient antecedent basis for the limitation "second fourth coupler" in the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1, 3-6, 8-11, 16 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Pan (US Patent No. 6147786).

Regarding claim 1, Pan discloses an optical network for the transfer of data between optical network units (ONU) connected to respective data terminal equipment (fig. 1, elements 36n and elements 24) including electro-optical interface for converting electrical signals to optical signals for transmission through the optical network (col. 9, lines 24-29) and for converting optical signals to electrical signals for input to the terminal equipment (col. 9, lines 16-23), comprising: a) a fiber optic line having first and second ends (fig. 1, the fiber between element 20 and element "Secondary HE"); b) first and second point-of-presence (POP) units connected to respective first and second ends of said fiber optic line (fig. 1, element 20 and element "Secondary HE"), said first and second POP units for being connected to another optical network (fig. 1, element "SDH & Video Trunk WDM SHR"), said first and second POP units including optical multiple wavelength apparatus for optical signal generation and optical multiple wavelength apparatus for optical signal detection (fig. 1, element 20 and col. 8, lines 22-29); c) first and second optical communicators connected to said fiber optic line at locations either between said first and second POP units or attached to the same or different POP units

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(fig. 1, element 28, the other branches from element 26 and col. 8, lines 37-49); d) first and second ONUs operably connected to respective said first and second optical communicators (fig. 1, elements 36n, other branches from element 26 and col. 8, lines 37-49), said first and second ONUs being associated with respective first and second data terminal equipment (fig. 1, elements 24, other branches from element 26 and col. 8, lines 37-49); e) said first optical communicator being configured to transmit a first wavelength signal bi-directionally from said first ONU to both said first and second POP units (fig. 1, element λ 2 and elements 36a, 28, 20 and "Secondary HE" and col. 2, lines 26-28 and col. 3, lines 56-60), said first optical communicator including a first add/drop module operably connected to said fiber optic line to drop a second wavelength signal from said fiber optic line intended for said first ONU (fig. 1, element 28 and col. 10, lines 25-29); f) said second optical communicator being configured to transmit a third wavelength signal bi-directionally from said second ONU to both said first and second POP units (fig. 1, other branches from element 26 and col. 8, lines 37-49, element λ 13 and elements 20 in the ring and "Secondary HE" and col. 2, lines 26-28 and col. 3, lines 56-60), said second optical communicator including a second add/drop module operably connected to said fiber optic line to drop a fourth wavelength signal from said fiber optic line intended for said second ONU (fig. 1 other branches from element 26 and col. 8, lines 37-49, element 28 and col. 10, lines 25-29); g) said first and second ONUs each including optical multiple wavelength apparatus for optical generation and optical wavelength apparatus for optical detection (col. 2, lines 38-47 and col. 9, lines 16-29 and col. 10, lines 25-29); and h) control system means for allocating wavelengths between said first and second ONUs and said first and second POP units (col. 2, lines 23-24 and lines 38-47, and col. 8, lines 27-29), where wavelengths allocated based on user demand indicates inherent wavelength control system means.

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Regarding claim 3, Pan discloses an optical network as in claim 1, wherein: a) said optical multiple wavelength apparatus for optical generation said ONUs includes multiple laser sources (col. 2, lines 38-47 and col. 10, lines 25-29).

Regarding claim 4, Pan discloses an optical network as in claim 1, wherein: a) said optical multiple wavelength apparatus for optical generation for said ONUs includes a WDM laser source (col. 2, lines 38-47), where tunable laser source is a WDM laser source.

Regarding claim 5, Pan discloses an optical network as in claim 1, wherein: a) said optical multiple wavelength apparatus for optical generation for said ONUs includes a tunable laser source (col. 2, lines 38-47).

Regarding claim 6. An optical network as in claim 1, wherein said optical multiple wavelength apparatus for optical detection for said ONUs includes a WDM receiver (col. 2, lines 34-37), where a tunable receiver filter tuned to one of the WDM network wavelengths indicates a WDM receiver.

Regarding claim 8, Pan discloses an optical network as in claim 1, wherein: a) said optical multiple wavelength apparatus for optical generation said POP units includes multiple laser sources (col. 2, lines 38-47).

Regarding claim 9, Pan discloses an optical network as in claim 1, wherein: a) said optical multiple wavelength apparatus for optical generation for said POP units includes a WDM laser source (col. 8, lines 22-29).

Regarding claim 10, Pan discloses an optical network as in claim 1, wherein: a) said optical multiple wavelength apparatus for optical generation for said POP units includes a tunable laser source (col. 2, lines 38-47).

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Regarding claim 11, Pan discloses an optical network as in claim 1, wherein said optical multiple wavelength apparatus for optical detection for said POP units includes a WDM receiver (col. 8, lines 22-29).

Regarding claim 16, Pan discloses a network as in claim 1, and further comprising a star coupler connected between said first or second optical communicator and said first or second ONU (fig. 1, element 28), where the communicator's optical multiplexer/demultiplexer is a star coupler.

Regarding claim 17, Pan discloses a network as in claim 1, and further comprising a switch coupler connected between said first or second optical communicator and first or second ONU (fig. 1, elements 36n and col. 2, lines 42-45 and col. 10, lines 48-51).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 18, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan (US Patent No. 6147786).

Regarding claim 18, Pan discloses a method for transferring data between a first optical network unit (ONU) to a second ONU, comprising: a) providing a fiber optic line between first and second point-of-presence (POP) units (fig. 1, the fiber ring between element Secondary HE and element Primary HE - clockwise); b) connecting first and second optical communicators to the fiber optic line at locations between the first and second POP units, each optical

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communication including an add/drop module (fig. 1, element 26, element 28 and similar elements branching from element 26, and col. 10, lines 25-29); c) connecting the first and second ONUs to the respective first and second optical communicators (fig. 1, elements 36n and elements 24 and same for other branches from element 26); d) designating one of the first and second POP units to be a primary POP unit for the first ONU (fig. 1, element Primary HE); and e) assigning a wavelength to be used by the first ONU to transmit data signal to the second ONU (fig. 1 [see assigned wavelengths in the figure] and col. 2, lines 23-24 and lines 38-47, and col. 8, lines 27-29); f) adjusting the add/drop module of the second optical communicator to drop the data signal at the assigned wavelength to the second ONU (fig. 1, element 28 and similar elements branching from element 26); g) sending the data signal on the assigned wavelength through the first optical communicator whereby the data signal is sent to both the first and second POP units through the fiber optic link (fig. 1, elements 24 and wavelengths connected through to elements Secondary HE and Primary HE). Pan does not explicitly disclose informing the primary POP unit that the assigned wavelength is no longer needed, however, based on Pan's disclosure of allocating wavelengths between said first and second ONUs and said first and second POP units based on user demand (col. 2, lines 23-24 and lines 38-47, and col. 8, lines 27-29), It would have been obvious to one of ordinary skill in the art at the time of the invention to inform the POP units when wavelengths used by the ONUs are no longer required based on user demand, so the wavelength's bandwidth can be made available to other users.

Regarding claim 22. A method as in claim 18, and discloses optical multiple wavelength apparatus for optical generation for said ONUs includes a tunable laser source (col. 2, lines 38-47) and WDM receiver (col. 2, lines 34-37), where a tunable receiver filter tuned to one of the WDM network wavelengths indicates a WDM receiver, but does not explicitly disclose listening by the ONU with a WDM receiver to all wavelengths in the fiber optic line; and selecting a free

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wavelength to transmit the data signal. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that the ONU would have to verify that the a wavelength is unused before transmitting on that wavelength, since the light paths sharing the fiber link must each use a different wavelength so that they do not interfere with each other, as taught by Pan.

Regarding claim 25, Pan discloses a method as in claim 18, where the multiplexing/demultiplexing function (fig. 1, element 28) of the optical communicators inherently discloses wavelength filtering.

8. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan (US Patent No. 6147786) in view of Fee (US Patent No. 5663822).

Regarding Claim 2, Pan discloses an optical network as in claim 1, but does not disclose: a) said optical multiple wavelength apparatus for optical generation for said ONUs includes a broad spectrum optical source; and b) a channel defining assembly for resolving the output of said broad spectrum optical source. Fee discloses a multi-wavelength digital transmitter comprising optical multiple wavelength apparatus for optical generation including a broad spectrum optical source (fig. 1, element 11 and col. 1, lines 1-62); and b) a channel defining assembly for resolving the output of said broad spectrum optical source (fig. 1, element 13 and elements 20n). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a broad spectrum source plus filter to providing multiple wavelength transmission capability at the ONUs of Pan, without requiring tunable lasers, as taught by Fee, which are more expensive due to requiring narrowband lasers with temperature control means, etc.

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Regarding claim 7, Pan discloses an optical network as in claim 1, but does not disclose a) said optical multiple wavelength apparatus for optical generation for said POP units includes a broad spectrum optical source; and b) a channel defining assembly for resolving the output of said broad spectrum optical source. Fee discloses a multi-wavelength digital transmitter comprising optical multiple wavelength apparatus for optical generation including a broad spectrum optical source (fig. 1, element 11 and col. 1, lines 1-62); and b) a channel defining assembly for resolving the output of said broad spectrum optical source (fig. 1, element 13 and elements 20n). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a broad spectrum source plus filter to providing multiple wavelength transmission capability at the ONUs of Pan, without requiring tunable lasers, as taught by Fee, which are more expensive due to requiring narrowband lasers with temperature control means, etc.

Allowable Subject Matter

9. Claims 19, 20, 21, 23, 24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

10. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (703) 305-0370. The examiner can normally be reached M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (703) 305-4729. The fax phone number for the

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organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600